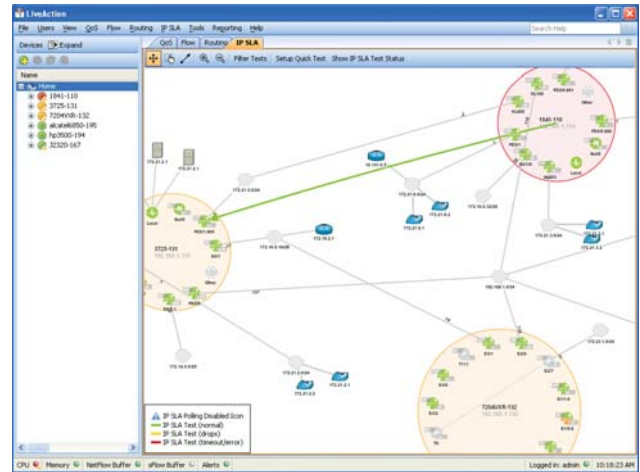


# LiveAction™ IP SLA

Effortless visual network testing and performance measurement for Cisco networks



LiveAction IP SLA chart showing graphical view of real-time test data (center) and test properties in tabular format (lower right).



LiveAction automatically generates a live topology view showing data paths of IP SLA test traffic. The software displays routers as larger diameter circles and interfaces as smaller diameter circles.

**L**iveAction IP SLA is a software module that makes Cisco IOS IP service level agreement (SLA) operations easily accessible for generating synthetic network traffic to monitor latency, loss, jitter, and mean opinion core (MOS) for VoIP.

LiveAction SLA is part of the LiveAction software framework that enables IT engineers at all experience levels to perform advanced Cisco device operations quickly and easily on live networks. Its highly interactive graphical interface delivers the full functionality and flexibility of the device features without the need to learn and use Cisco device command lines

## About Cisco IOS IP SLA

Cisco IOS IP SLA is a capability embedded in most devices that run Cisco IOS software. Its service-level assurance metrics and methodology allow users to increase network reliability by verifying service guarantees with precise service-level assurance measurements. IP SLA can validate network performance, proactively identify network issues, and simplify the deployment of new IP services.

Cisco IOS IP SLAs generate synthetic test traffic in a continuous, reliable, and predictable manner to enable accurate measurement of network performance. This traffic can be sent across the network to measure performance among multiple network locations or across multiple network paths. IP SLA uses timestamp information to facilitate the calculation of performance metrics such as jitter, latency, network, and server response times, packet loss, and mean opinion score.

## Key Features and Benefits

- **Ease of use**—LiveAction makes Cisco IP SLA easy to use. An intuitive graphical interface replaces complicated command lines making on-the-fly test configuration and execution easy and understandable.
- **Improved efficiency**—Reduces time required for network deployment, maintenance and training while improving network availability.
- **Built-In IP SLA expertise**—LiveAction IP SLA is based on Cisco best practices and an extensive knowledgebase of the IP SLA features and functions of Cisco devices.
- **Rich visualizations**—LiveAction provides real-time charts and tabular results with views of latency, loss, jitter, MOS, and more for IP SLA. Configured tests are represented graphically on topology views for quick test identification.
- **Test traffic generation**—Generates and sends synthetic test traffic from router to router for measuring network performance. Enables detailed editing of test configurations to simulate complex traffic patterns.
- **Interactive**—Start, stop, and edit traffic tests in real time.
- **Non-disruptive**—LiveAction IP SLA is a software-based solution that requires no physical topology changes or service interruptions to install.
- **Exceptional ROI**—LiveAction IP SLA takes full advantage of existing features built into Cisco devices significantly reducing the need to purchase separate test networks and hardware-based test equipment including external traffic generators, far end-point probes, and analyzers.

# Features and Specifications

## Features

- Measurements: Latency, loss, jitter, and MOS
- Tests: DHCP, DNS, ICMP Echo, FTP, HTTP, Jitter, UDP Echo
- IP SLA topology view (real-time)
  - Multiple colors for visualization
  - Loss indicators
  - Normal and above-threshold indicators
  - Lists of running tests (indicating source, type, status)
- Quick and full test options
- Set up responder at destination
- Start/Stop traffic tests
- Edit, save, delete test configurations
- Export results to CSV file
- Historical reporting (live update averages over timeline)
  - Variable sampling rates: from 10 sec. to 5 min.
  - Latency: milliseconds over time,  $\mu$ s for jitter
  - Loss: number of dropped packets
  - VoIP MOS score range: 1-5
- General test parameters
  - Entry ID
  - Tag
  - Owner
  - Source address, host name or URL
  - Destination address
- DHCP parameters: circuit ID, remote ID, subnet mask
- DNS parameters: name server
- ICMP Echo parameters: number of bytes
- FTP parameters: username and password, passive or active modes
- HTTP parameters: get or raw message, name server, version number, cache enable/disable, proxy address
- Jitter parameters
  - VoIP CODEC simulation (G.711  $\mu$ -law and A-law, G.729a)
  - Control enable/disable
  - Advantage factor
  - Number of packets
  - Number of bytes
  - Interval
- UDP Echo specific parameters: dest/src port, control enable/disable, data pattern, number of bytes
- Path Jitter specific parameters: number of bytes
- Path Echo specific parameters: number of bytes

## Devices Supported

- Cisco Series Routers\*—800, 1700, 1800, 2600, 2600XM, 2800, 3600, 3700, 3800, 7200, 7600
- Cisco Series Switches\*—Catalyst 6500, 4500, and 3000 series switches.

\*IOS 12.3, 12.4; IOS 12.2 for 7600 and Cat 6500 series

## LiveAction Technology Module Options with IP SLA

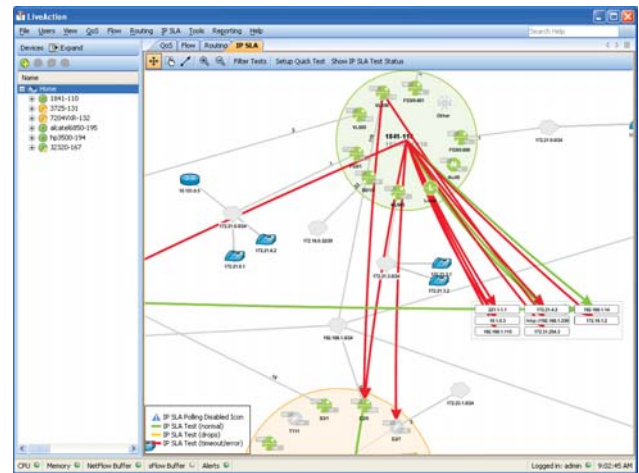
- Master Suite: QoS, Flow, Routing, IP SLA

## System Requirements

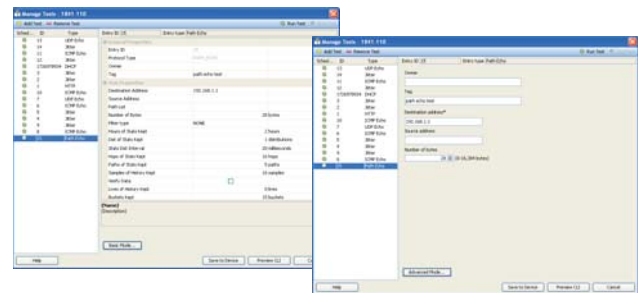
- Windows-based PC with network connection (visit our web site for current system requirements)

## Warranty and Support

- 90 day warranty and support including free upgrades
- Online technical support
- Annual software maintenance plans available



Topology view of showing IP SLA traffic paths. Line colors: green=normal, amber=packet loss, red=error



IP SLA tests are easy to set up whether you want detailed test parameters or to use the Quick Test option.

Scheduled	Status	ID	Type	Tag	Device	DestinationURL	Error
●	●	3725-110	ICMP Echo		3725-110	192.168.1.114	Success
●	●	40	ICMP Echo		3725-110	1.1.1.1	Timeout
●	●	1	ICMP Echo		7204008-132	192.168.1.149	Success
●	●	2	ICMP Echo		7204008-132	192.168.1.149	Success
●	●	3	ICMP Echo		7204008-132	192.168.0.110	Not Connected
●	●	15	DHCP		2085-133	192.168.0.217	Error
●	●	108	DHCP		2085-133	172.21.0.1	Timeout
●	●	9	ICMP Echo	my@#99 tag	2085-133	192.168.1.330	Success
●	●	12	ICMP Echo	my@#99 tag	2085-133	192.168.1.330	Success
●	●	17	ICMP Echo	my@#99 tag	2085-133	192.168.1.12	Success
●	●	8	ICMP Echo		2085-133	192.168.1.133	Success
●	●	10	ICMP Echo		2085-133	192.168.1.133	Success
●	●	11	ICMP Echo		2085-133	192.168.1.133	Success
●	●	13	ICMP Echo		2085-133	192.168.0.52	Not Connected
●	●	14	ICMP Echo		2085-133	10.0.0.1	Success
●	●	19	ICMP Echo		2085-133	9.9.9.9	Not Connected
●	●	102	ICMP Echo		2085-133	192.168.1.146	Not Connected
●	●	103	ICMP Echo		2085-133	10.0.0.1	Timeout
●	●	107	ICMP Echo		2085-133	172.21.0.1	Not Connected
●	●	106	Path Echo		2085-133	192.168.1.330	Error
●	●	104	Path Echo		2085-133	172.21.0.1	Success
●	●	8	DHCP		2085-133	172.21.0.1	Error
●	●	105	ICMP Echo		2085-133	172.21.0.1	Success

Test status can be displayed in tabular form and also exported to a CSV file.



LiveAction software is available from Referentia Systems, Inc. 550 Paiea Street, Suite 236, Honolulu, HI 96819

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